

TA-AX311

SERVICE MANUAL

US Model
Canadian Model
E Model
Australian Model



SPECIFICATIONS

POWER OUTPUT AND TOTAL HARMONIC DISTORTION:

With 8-ohm loads, both channels driven, from 40 - 20,000 Hz; rated 110 watts per channel minimum RMS power, with less than 0.9% total harmonic distortion from 250 milliwatts to rated output.

Inputs

	Sensitivity	Impedance
PHONO	3.0 mV	50 kohms
TUNER, CD, VIDEO, TAPE	250 mV	50 kohms

Output	REC OUT: Voltage 250 mV, impedance 1 kohm
	SPEAKER: Accepts speakers of 8 to 16 ohms
	HEADPHONES: Accepts headphones with low and high impedance
Frequency response	PHONO: RIAA curve
	TUNER/CD/VIDEO/TAPE: 30 Hz - 30 kHz ± 3 dB
GRAPHIC EQUALIZER controls	Boost/Cut range:
	± 8 dB (100 Hz, 330 Hz, 1 kHz, 3.3 kHz)
	± 6 dB (10 kHz)
Dimensions	Approx. 430 x 145 x 360 mm (w/h/d) (17 x 5 $\frac{5}{8}$ x 14 $\frac{1}{8}$ inches)
Weight	Approx. 9.5 kg (20 lb. 15 oz.)

Design and specifications subject to change without notice.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK \triangle OR DOTTED LINE WITH MARK \triangle ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE \triangle SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

INTEGRATED STEREO AMPLIFIER
SONY[®]

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:

Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

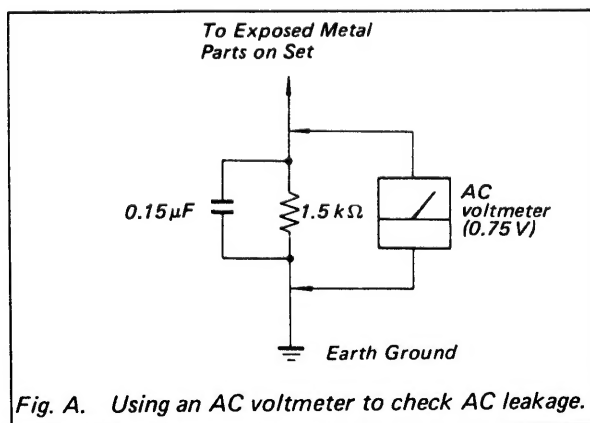
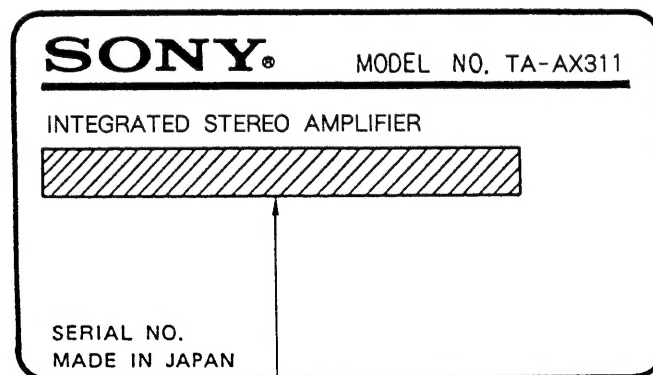


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MODEL IDENTIFICATION

— Specification Label —



US, Canadian models : AC 120V, 60Hz

200W (U) 400VA (CA)

Australian model : AC 220V~50/60Hz 220W

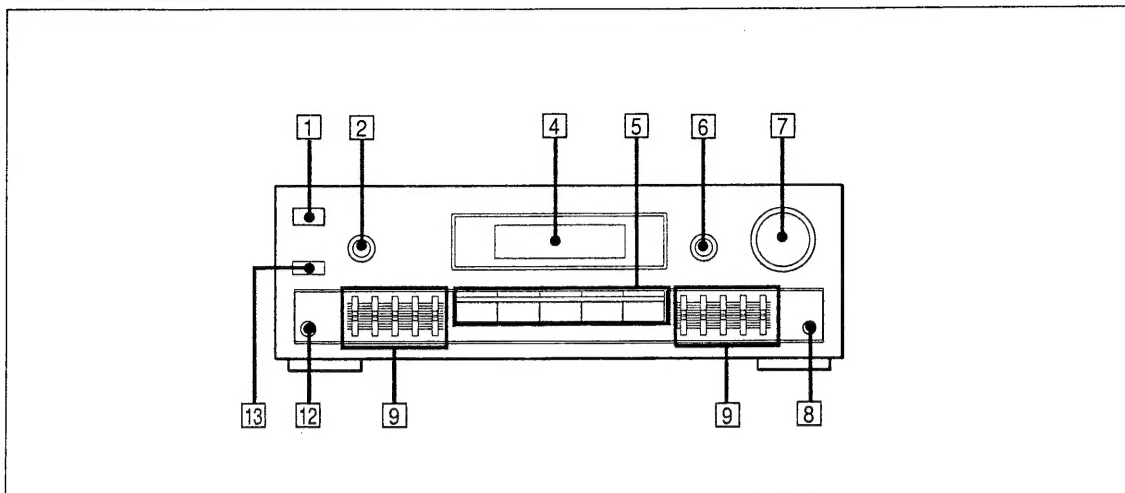
E model : AC 120/220/240V~50/60Hz
220W

SECTION 1

GENERAL

This section is extracted from instruction manual.

1-1. Location and Function of Controls



Amplifier

1 SYSTEM POWER switch

When the SYSTEM POWER switch is turned ON, the settings on the display panel are automatically reset the original setting.

2 SPEAKERS selector

4 Display window

5 Function selectors

6 BALANCE control

7 MASTER VOLUME control

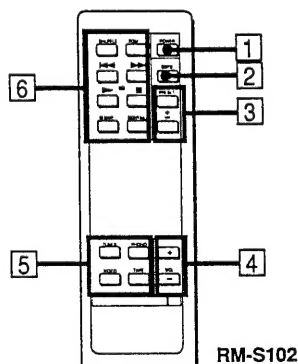
8 DBFB switch

9 Graphic equalizer controls

12 HEADPHONES jack

13 Remote control sensor

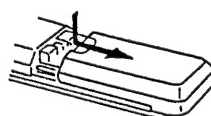
Remote Commander



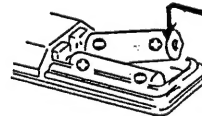
RM-S102

Installing Batteries

1



2 Two size-AA (R6) batteries



1 POWER button

2 DBFB button

3 TUNER PRESET +/- buttons

4 VOL (volume) +/- buttons

5 Function selectors

6 CD player operation buttons

CD ►: Selects the CD function and starts CD playback.

Battery life

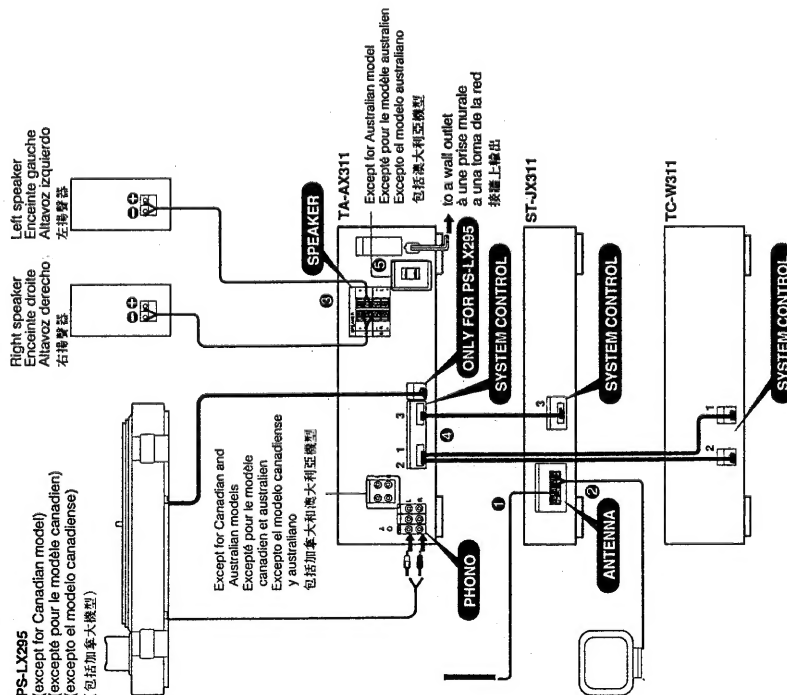
About half a year of normal operation can be expected when using the Sony SUM-3 (NS) batteries. When the batteries are exhausted, the remote commander can no longer operate the unit. If this happens, replace both batteries with new ones.

To avoid battery leakage

When the commander is not be used for a long time, remove the batteries to avoid damage caused by battery leakage and corrosion.

Connections

- Connect the AC power cord last. Make sure power is off.
- Cord plugs and jacks are color coded. Red plugs and jacks are for the right channel (R) and white ones are for the left channel (L).
- The cable connectors should be fully inserted into the jacks. A loose connection may cause hum and noise.
- Keep speaker cords, connecting cords and power cords away from the AM loop antenna and the tuner's antenna lead-in to avoid possible noise pickup.



③ Speaker cords

You can connect two pairs of speaker systems: system A and system B. They can be selected individually or simultaneously with the selector on the front panel.

Cordons des enceintes acoustiques

Il est possible de raccorder deux paires d'enceintes acoustiques: le système A et le système B. Elles peuvent être sélectionnées individuellement ou simultanément à l'aide du sélecteur situé sur le panneau avant.

Cables de los altavoces

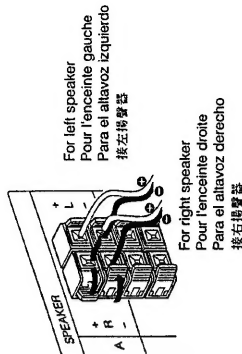
Usado podrá conectar dos pares de sistemas de altavoces: sistema A y sistema B. Estos sistemas podrán elegirse individual o simultáneamente con el selector del panel frontal.

揚聲器連接線

可以連接兩對揚聲器系統:

A 系統和 B 系統。

利用前控制面板上的選擇鍵，可進行單獨或同時使用的選擇。



④ Flat cords (supplied)

Connect the blue and black connectors to the same color connector jacks respectively for controlling each unit.

Cordons plats (fournis)

Brancher les connecteurs bleu et noir respectivement aux prises de la même couleur pour contrôler chaque appareil.

Cables planos (suministrados)

Inserte los conectores macho azul y negro en los hembra del mismo color a fin de controlar cada una de las unidades.

扁平連接線附

連接線頭與同色的連接器嚴格地相連接 (藍對藍，黑對黑)。



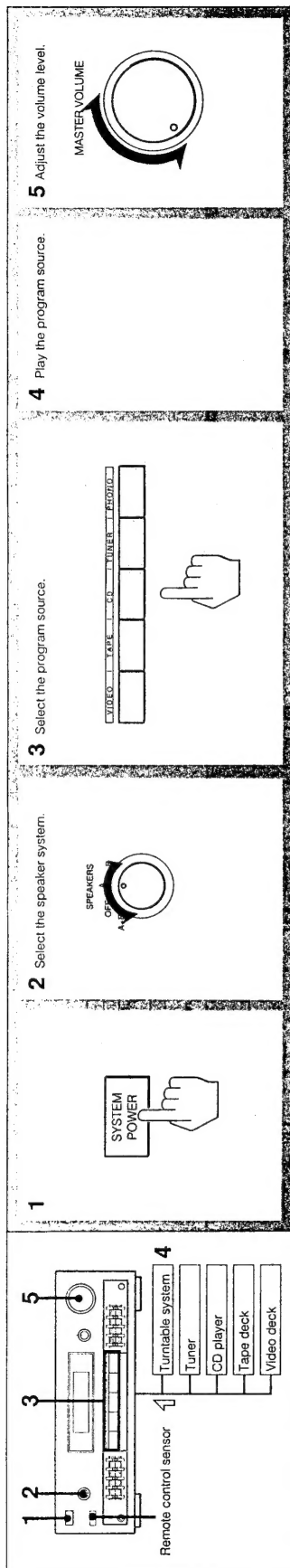
Push in until it clicks.

Pousser jusqu'à encliquetage. Presione hasta que chasquee. 接線器上的響子

To disconnect.

Pour déconnecter. Para desconectar. 切斷連接

Listening to a Program Source



Selecting the speaker system

To drive speaker system A: Set **SPEAKERS** to 'A'.

To drive speaker system B: Set **SPEAKERS** to 'B'.

To drive both speakers: Set **SPEAKERS** to 'A + B'.
For headphone listening only: Set **SPEAKERS** to 'OFF'.

Notes

- When **SPEAKERS** is set to 'A + B', two pairs of speaker systems must be connected. Otherwise, no sound can be heard.
- The sound of rear (surround) speakers are not heard from the headphones.

Selecting the program source

For a record program, press **PHONO**.

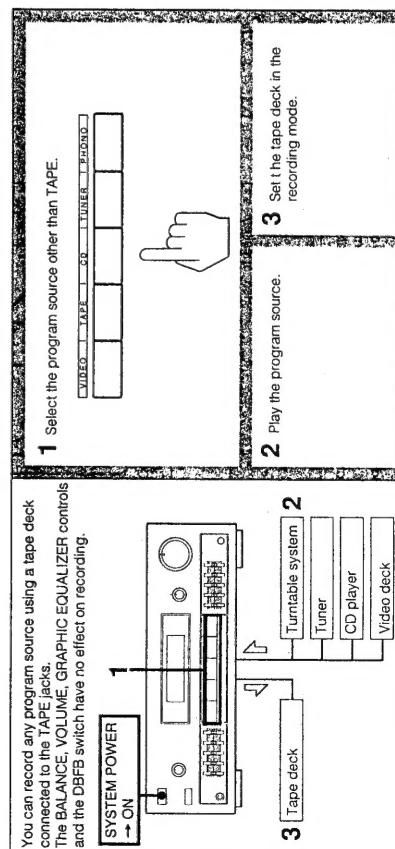
For a tuner program, press **TUNER**.

For a CD program, press **DC**.

For a tape program, press **TAPE**.

For a video sound program, press **VIDEO**.

Recording



You can record any program source using a tape deck connected to the **TAPE** jacks. The **BALANCE**, **VOLUME**, **GRAPHIC EQUALIZER** controls and the **DBFB** switch have no effect on recording.

1 Select the program source other than **TAPE**.

2 Play the program source.

3 Set the tape deck in the recording mode.

SECTION 2

DIAGRAMS

2-1. DESCRIPTION ON IC101(μ PD75206-717-3BE)

Pin	Port	I/O	ACT	RESET	Outside	
1	RESET	I				DIGIT9
2	t0	O	H	High	L	DIGIT8
3	t1	O	H	High	L	DIGIT7
4	t2	O	H	High	L	DIGIT6
5	t3	O	H	High	L	DIGIT5
6	t4	O	H	High	L	DIGIT4
7	t5	O	H	High	L	DIGIT3
8	t6	O	H	High	L	DIGIT2
9	t7	O	H	High	L	DIGIT1
10	t8	O	H	High	L	NC
11	t9	O	H	High	L	DBFB
12	t10	O	H	High	L	FRONT MUTE
13	t11	O	H	High	L	REAR MUTE
14	t12	O	H	High	L	DRLC CONTROL
15	t13	O	H	High	L	DRLC SW A
16	t14	O	H	High	L	DRLC SW B
17	t15	O	H	High	L	- 30V
18	Vload		-	High		- 4V
19	Vpre		-	High		NC
20	s9	O	H	High	L	SEG9
21	s8	O	H	High	L	SEG8
22	s7	O	H	High	L	SEG7
23	s6	O	H	High	L	SEG6
24	s5	O	H	High	L	SEG5/KEY OUT5
25	s4	O	H	High	L	+ 5V
26	V _{DD}			High		SEG4/KEY OUT4
27	s3	O	H	High	L	SEG3/KEY OUT3
28	s2	O	H	High	L	SEG2/KEY OUT2
29	s1	O	H	High	L	SEG1/KEY OUT1
30	s0	O	H	High	L	KEY IN 1
31	p00	I	H	In	L	KEY IN 2
32	p01	I	H	In	L	

High : High - impedance status

In : Input status

Pin	Port	I/O	ACT	RESET	Outsided	
33	p02	I	H	In	L	KEY IN 3
34	p03	I	H	In	L	KEY IN 4
35	p10	I	H	In		RM - 1
36	p11	I	H	In		RM - 2
37	p12	I	L	In		DRLC SW
38	p13	I	L	In		POWER SW
39	p20	O	H	In	L	ST LC7535/LC7822
40	p21	O	L	In	L	ST LV1001M
41	p22	O	H	In	L	SV MSM59371
42	p23	O	H	In	L	VOL +
43	p30	O	H	In	L	VOL -
44	p31	O	H	In	L	VIDEO A
45	p32	O	H	In	L	VIDEO B
46	p33	O	L	In	L	TC PAUSE/PRO LOGIC
47	p60	O	H	In	L	STOP
48	p61	O	H	In	L	CLOCK
49	p62	O	H	In	L	DATA
50	p63	O	H	In	L	FRONT SP relay
51	p40	O	L	In	L	RECOU SW V1
52	p41	O	L	In	L	RECOU SW V2
53	p42	O	L	In	L	RECOU SW TAPE
54	p43	O	H	In	L	POWER RELAY
55	ppo	O	H	In	L	REAR SP relay
56	x1					
57	x2					
58	Vss					
59	xt1					
60	zt2					
61	p50	O	H	In		DRLC READY
62	p51	O	H	In		MIX SW
63	p52	O	H	In		DOLBY SW
64	p53	O	H	In		SIM SW

High : High-impedance status

In : Input status

2-2. KEY OPERATION

Key input has priority over serial input.

(1) Setting

KEY OUT KEY IN	S0	S1	S2	S3	S4
P00	PHONO	TUNER	CD	TAPE	VIDEO01
P02	DBFB	DELAY	DOLBY	HALL	SIMULATED

Note 1. SURROUND ON/OFF.

(2) FUNCTION Key (PHONO,TUNER, CD, TAPE, VIDEO1-4) operation

These keys execute operations below when pressed.

FUNCTION ICSerial data

REC OUT SWStatic data

VIDEO SW.....Static data

FRONT MUTE.....One shot

REAR MUTEOne shot

(3) REAR MUTE PORT

The port is turned to "H" by switching to SURR ON, MODE or FUNCTION.

(Key input, Serial input)

Also the port is "H" three seconds after POWER ON is selected.

REAR MUTE PORT has priority over other ports to output when POWER OFF is selected and operates when SUB VOLUME is turned to ∞ .

However there is no output for the port switching the main FUNCTION when DRLC ON is selected.

(4) DRLC CONTROL PORT (used for SP relay too)

The port is turned to "H" only when DRLC ON is selected. (Key input, Serial input)

(5) POWER RELAY PORT

The port is turned to "H" when either POWER ON or DRLC ON is selected. (Key input, Serial input RM-1, RM-2) Both MAIN and SUB are turned OFF when ALL OFF serial input is selected.

(6) DOLBY PORT

The port is turned to "L" HALL or SIM is selected. (Key input, Serial input)

(7) SIM PORT

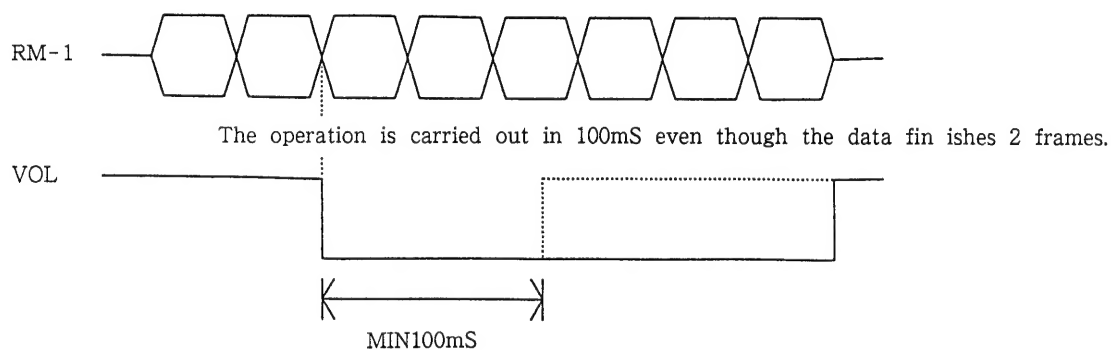
The port is turned to "L" when SIM is selected. (Key input, Serial input)

The relation between Switch ON and FUNCTION

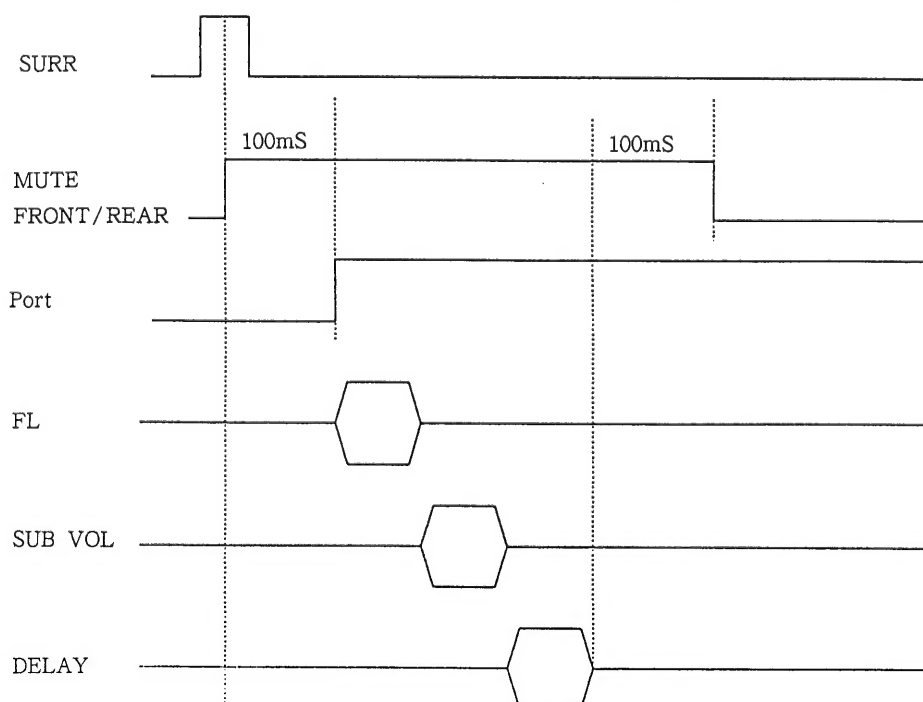
SW	TA-AX311/AV411
1. PHONO	10000001
2. TUNER	01000001
3. CD	00100001
4. TAPE	00010000
5. VIDEO 3	none
6. VIDEO 2	none
7. VIDEO 1	00000011
8. VIDEO 4	none

Timing chart

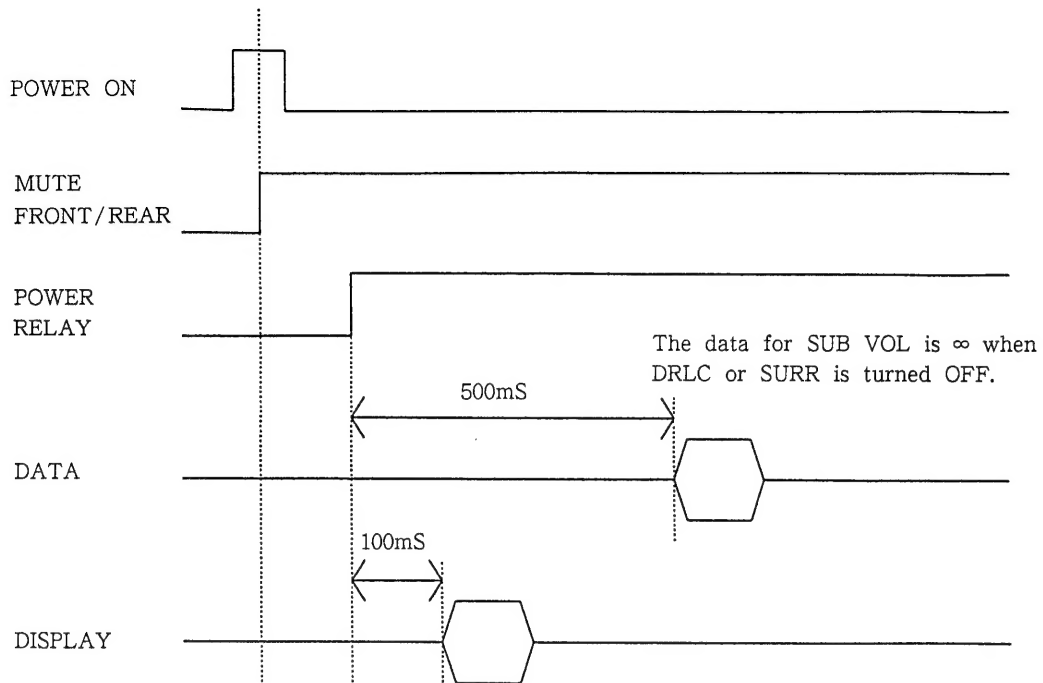
VOL + / -



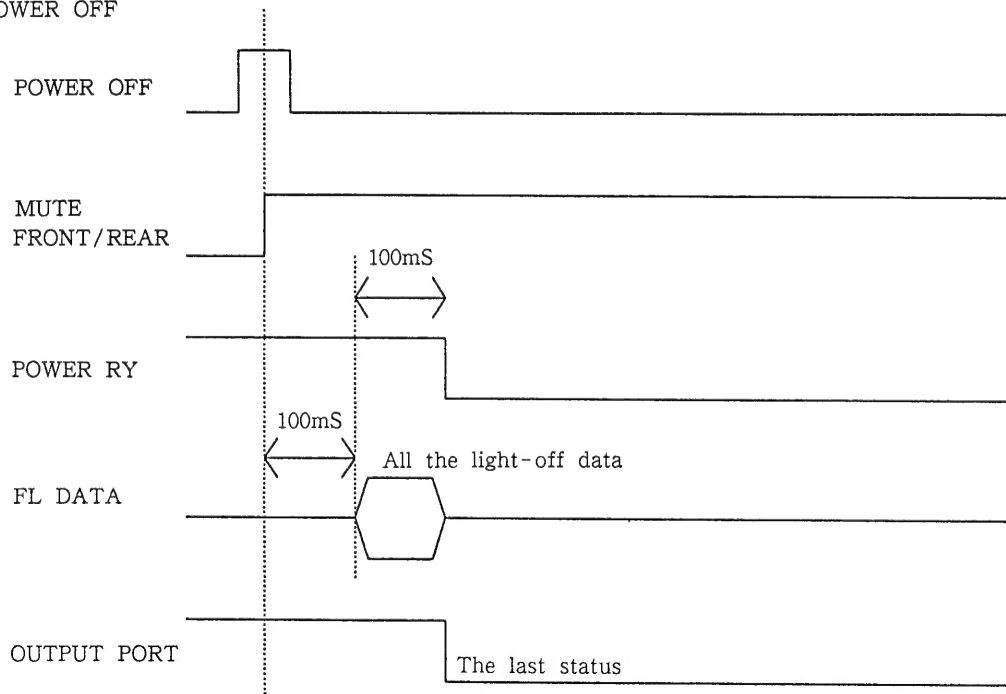
MUTE must be switched 100mS forward or backward during SURR MODE switching (including SURR/OFF switch).



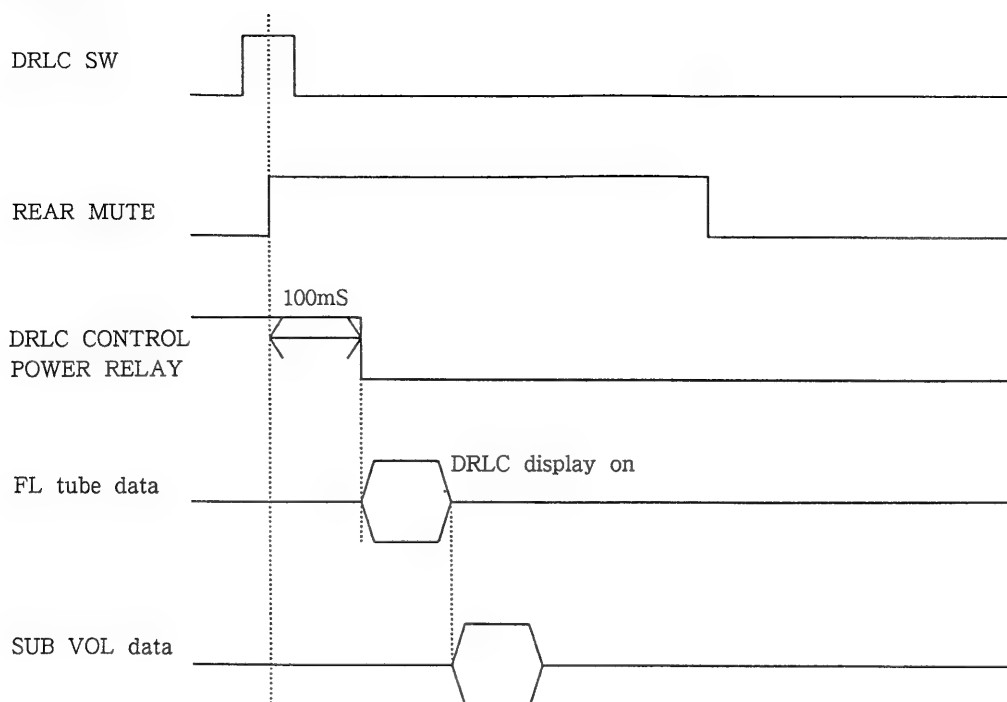
POWER ON (The same operation when starting the buck up system.)



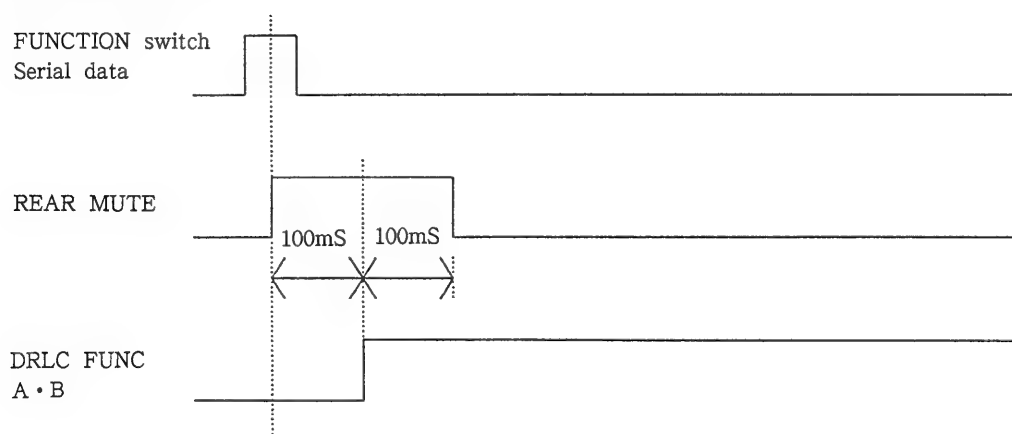
POWER OFF



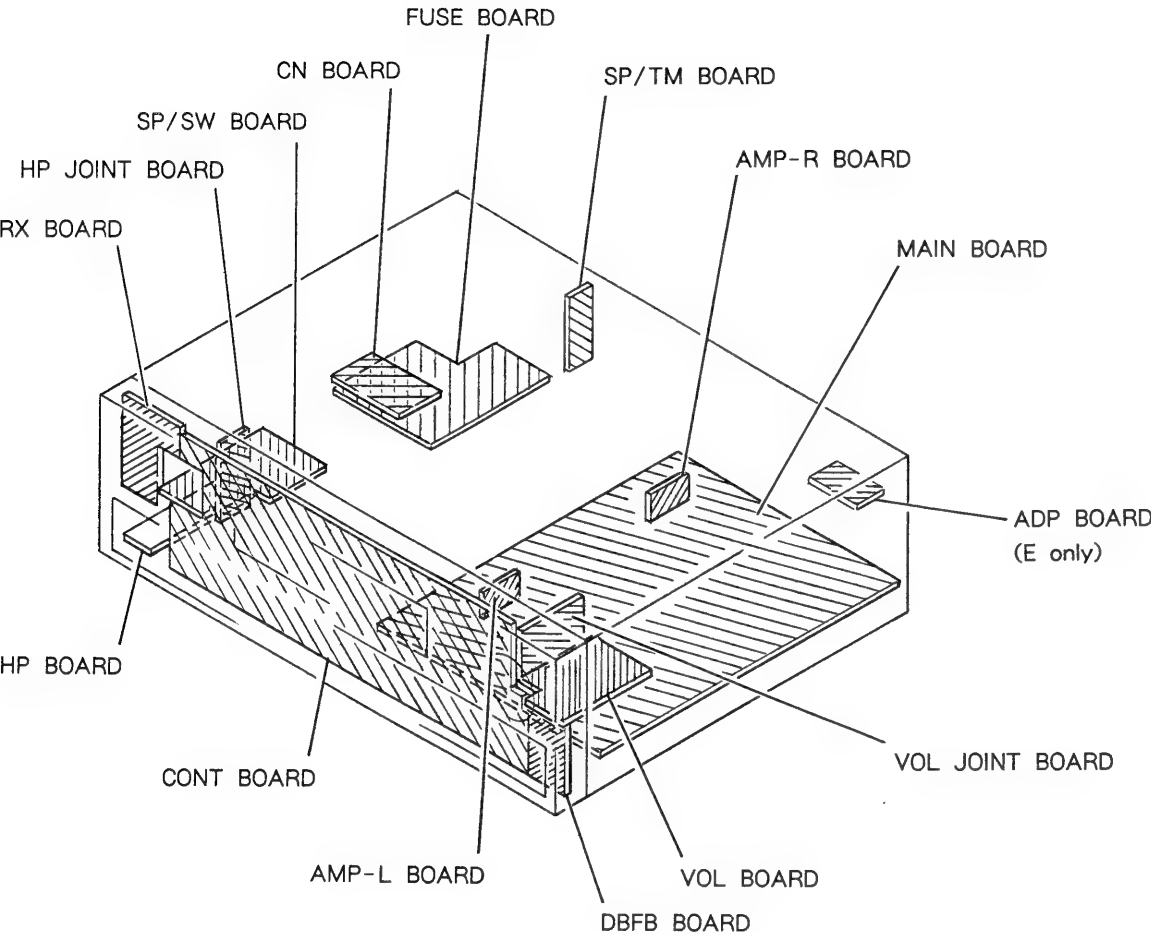
Timing chart
DRLC



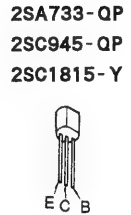
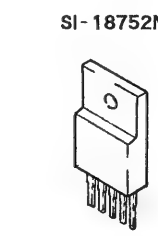
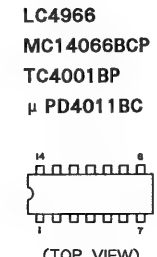
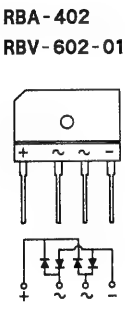
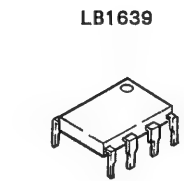
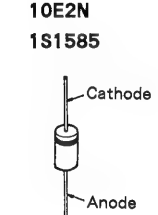
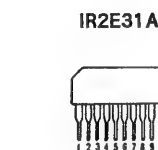
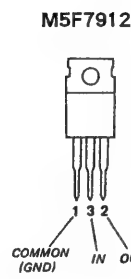
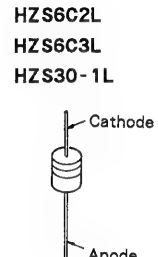
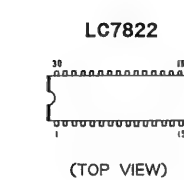
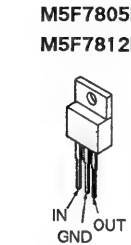
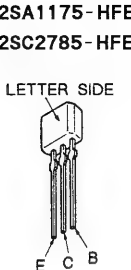
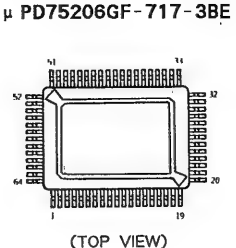
DRLC FUNCTION



2-3. CIRCUIT BOARDS LOCATION



2-4. SEMICONDUCTOR LEAD LAYOUTS

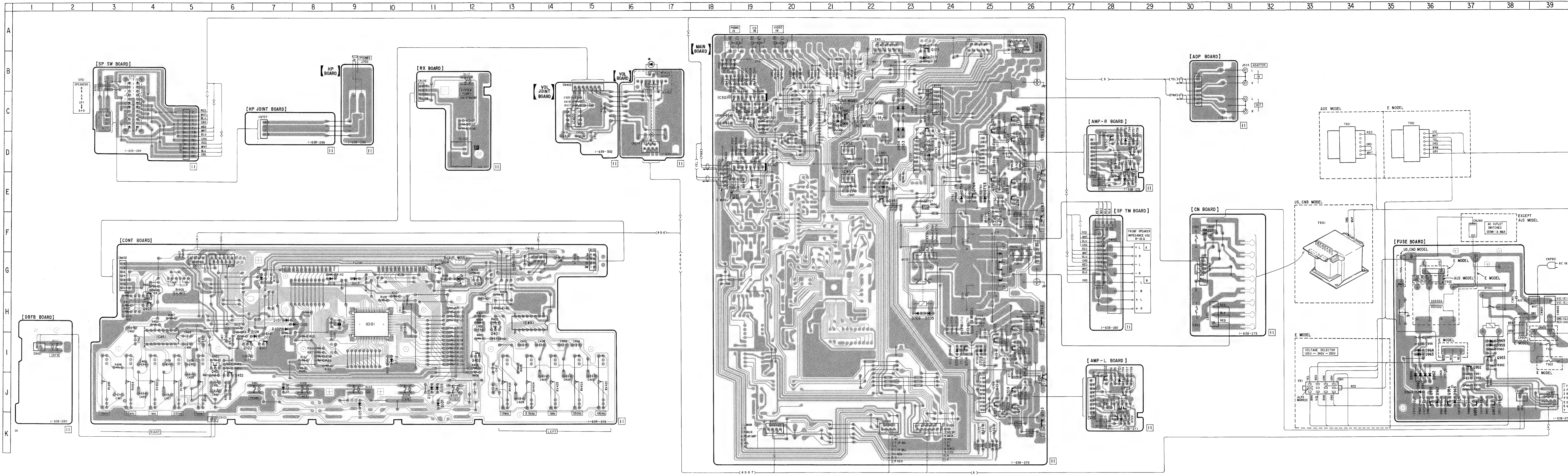


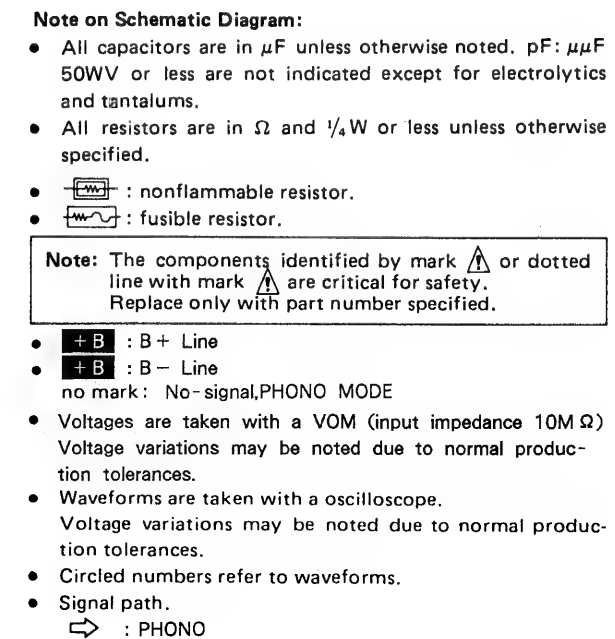
- See page 13 for Semiconductor Lead Layouts.

- Semiconductor Location

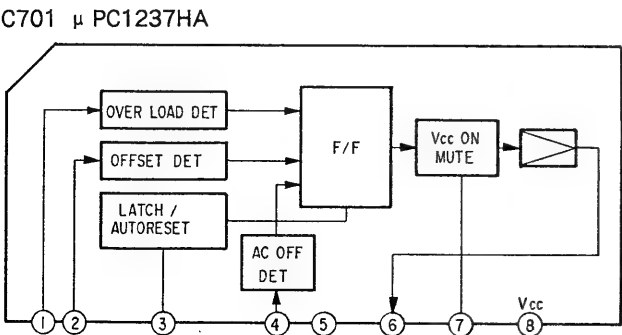
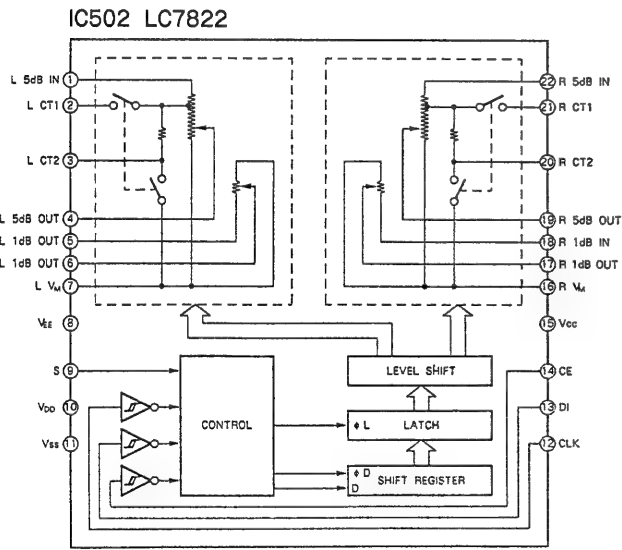
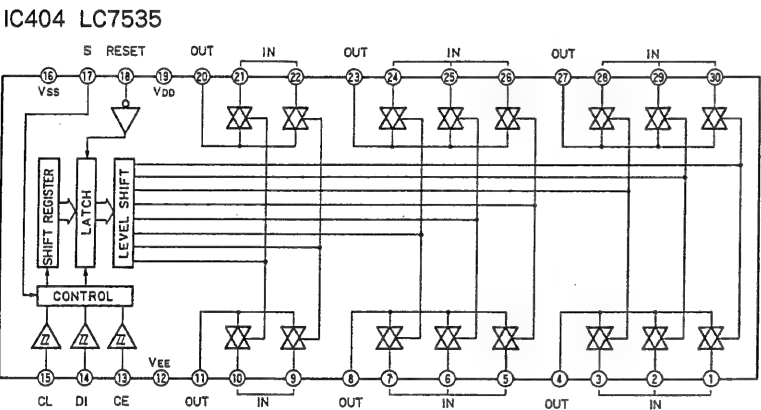
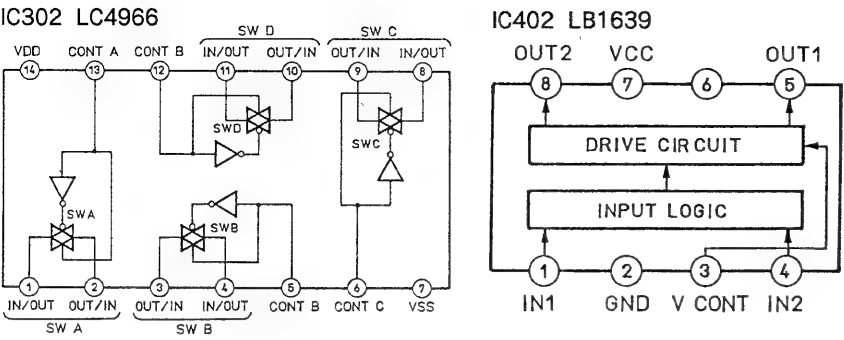
Ref. No.	Location	Ref. No.	Location
D101	H-7	Q708	I-26
D102	H-7	Q709	J-26
D103	H-8	Q710	H-26
D104	H-7	Q711	J-26
D105	J-9	Q712	H-26
D106	J-7	Q713	K-26
D107	J-11	Q714	I-24
D108	J-11	Q715	C-23
D109	J-11	Q751	D-28
D112	I-10	Q752	D-28
D113	G-7	Q753	D-29
D114	G-12	Q754	E-28
D115	B-23	Q755	C-25
D116	G-8	Q756	D-26
D117	G-9	Q757	E-25
D701	J-28	Q758	D-26
D702	K-28	Q759	E-26
D703	I-25	Q760	C-26
D704	I-24	Q761	E-26
D705	H-23	Q762	C-26
D706	H-23	Q763	F-26
D707	D-23	Q764	E-25
D751	D-28	Q951	E-22
D752	E-28	Q952	I-37
D753	E-25	Q953	I-37
D754	E-24	Q954	J-36
D951	G-25	Q955	J-36
D953	C-23	Q956	J-37
D954	C-23	Q957	J-37
D955	C-23	Q958	C-21
D956	C-23		
D957	E-22	IC101	H-9
D958	I-37	IC102	D-12
D959	J-36	IC301	D-19
D960	J-36	IC401	H-13
D961	J-36	IC402	C-15
D962	J-36	IC451	I-4
D963	I-36	IC501	C-19
D964	I-36	IC502	C-20
D965	J-37	IC701	D-23
D966	J-36	IC951	D-22
D967	J-36	IC952	D-21
D968	C-21	IC953	E-21
D969	I-37		
Q101	I-7		
Q102	I-6		
Q103	G-12		
Q104	G-11		
Q105	A-23		
Q401	I-12		
Q402	H-13		
Q403	I-4		
Q451	I-6		
Q452	I-6		
Q453	G-4		
Q701	J-28		
Q702	J-28		
Q703	J-28		
Q704	K-28		
Q705	I-25		
Q706	J-26		
Q707	J-25		

Note on Mounting Diagram:
 ● ○ — : parts extracted from the component side.





2-7. IC BLOCK DIAGRAMS



SECTION 3
EXPLODED VIEWS

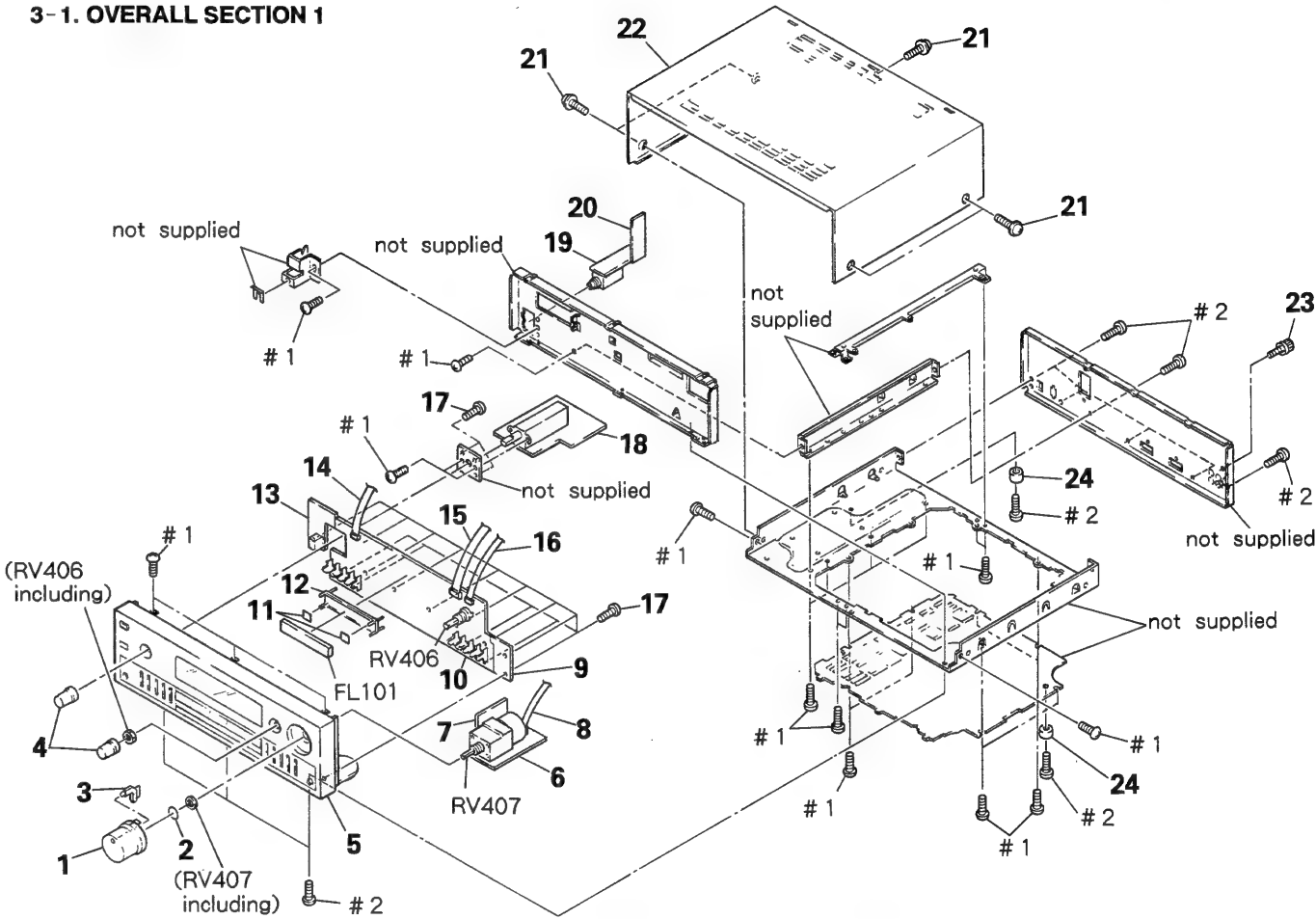
NOTE :

- - XX, - X mean standardized parts, so they may have some differences from the original one.
- Color Indication of Appearance Parts
Example :
KNOB, BALANCE (WHITE)...(RED)
Parts color Cabinet's color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is given in the last of this parts list.

The components identified by mark or dotted line with mark are critical for safety. Replace only with part number specified.

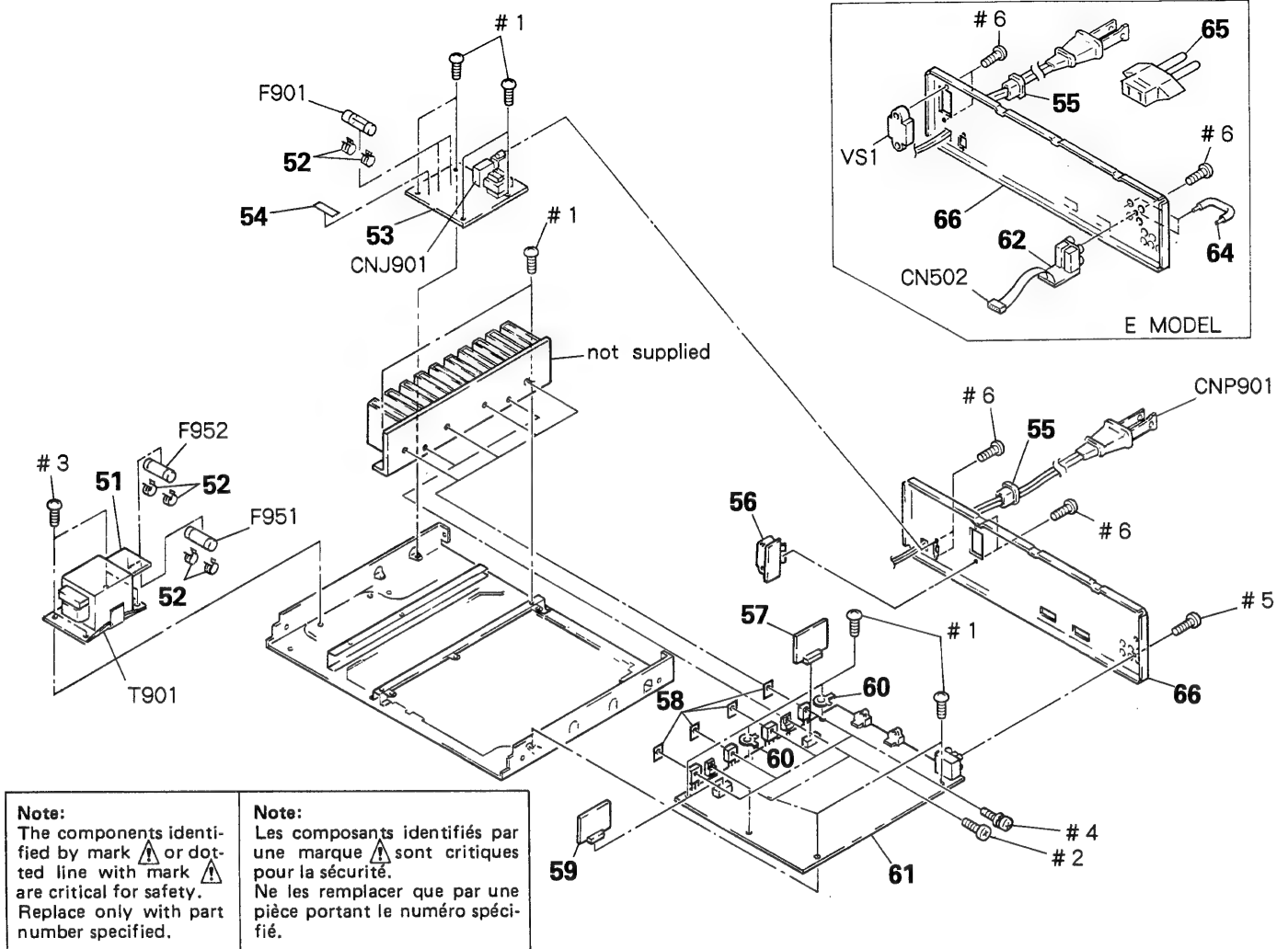
Les composants identifiés par une marque sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

3-1. OVERALL SECTION 1



Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
1	4-943-091-01	KNOB (VOL)		13	* 1-638-277-11	RX BOARD	
2	3-350-426-01	SPRING, RING		14	1-590-486-11	WIRE, FLAT TYPE (7 CORE)	
3	4-943-092-01	PLATE(VOL), LIGHT GUIDE		15	1-590-488-11	WIRE, FLAT TYPE (11 CORE)	
4	4-943-420-01	KNOB (DIA. 19)		16	1-590-538-11	WIRE, FLAT TYPE (7 CORE)	
5	A-4323-865-A	PANEL ASSY, FRONT (US, Canadian)		17	4-928-635-01	SCREW, +BV (2.6X8) TAPPING	
	A-4323-867-A	PANEL ASSY, FRONT (E, Australian)					
6	* 1-638-278-11	VOL BOARD		18	* 1-638-284-11	SP SW BOARD	
7	* 1-638-279-11	VOL JOINT BOARD		19	* 1-638-285-11	HP BOARD	
8	1-590-485-11	WIRE, FLAT TYPE (7 CORE)		20	* 1-638-286-11	HP JOINT BOARD	
9	* 1-638-280-11	DBFB BOARD		21	3-704-366-01	SCREW (CASE) (M3X8)	
10	* A-4341-710-A	CONT BOARD, COMPLETE (US, Canadian)		22	4-931-031-11	CASE	
	* A-4341-715-A	CONT BOARD, COMPLETE (E, Australian)					
11	* 4-921-941-01	CUSHION (FL)		23	3-706-165-00	SCREW	
12	* 4-943-107-01	HOLDER (FL TUBE)		24	X-4941-229-1	FOOT ASSY (F2112S-M)	

3-2. OVERALL SECTION 2



Ref. No.	Part No.	Description
51	* 1-638-273-11	CN BOARD
52	1-533-217-31	HOLDER, FUSE
53	* 1-638-276-11	FUSE BOARD
54	* 3-701-947-16	LABEL (T3.15A), FUSE (E,Australian)
55	* 3-703-244-00	BUSHING (2104), CORD (US,Canadian,Australian)
	* 3-703-571-11	BUSHING (S) (4516), CORD (E)
56	* 1-638-287-11	SP TM BOARD
57	* 1-638-272-11	AMP-R BOARD
58	4-911-232-01	SHEET, INSULATING
59	* 1-638-271-11	AMP-L BOARD
60	* 4-942-204-01	PLATE, GROUND
61	* A-4341-708-A	MAIN BOARD, COMPLETE (US)
	* A-4341-713-A	MAIN BOARD, COMPLETE (E)
	* A-4341-814-A	MAIN BOARD, COMPLETE (Australian)
	* A-4341-950-A	MAIN BOARD, COMPLETE (Canadian)
64	1-535-530-11	PLUG, JUMPER (E)
65	1-569-007-11	ADAPTER, CONVERSION 2P (E)

Remarks	Ref. No.	Part No.	Description	Remarks
	66	* 4-943-458-11	PANEL, BACK (US)	
		* 4-943-458-21	PANEL, BACK (E)	
		* 4-943-458-31	PANEL, BACK (Australian)	
		* 4-943-458-41	PANEL, BACK (Canadian)	
	CN502	1-569-132-11	PIN, CONNECTOR 7P	
	CNJ901	1-540-057-11	OUTLET AC (POLAR) (US, Canadian)	
		1-540-038-11	OUTLET AC (NON POLAR) (E)	
	CNP901	1-551-188-XX	CORD, POWER (E)	
		1-551-478-00	CORD, POWER (US,Canadian)	
		1-559-912-11	CORD, POWER (Australian)	
	F901	1-532-237-00	FUSE, TIME LAG (E,Australian)	
		1-576-110-11	FUSE (US,Canadian)	
	F951	1-532-237-00	FUSE, TIME LAG (E,Australian)	
		1-576-107-11	FUSE (US,Canadian)	
	F952	1-532-237-00	FUSE, TIME LAG (E,Australian)	
		1-576-107-11	FUSE (US,Canadian)	
	T901	1-450-368-11	TRANSFORMER, POWER (US,Canadian)	
		1-450-369-11	TRANSFORMER, POWER (E,Australian)	
	VS1	* 1-571-515-11	SWITCH, POWER VOLTAGE SELECTION (E)	

ADP	AMP-R
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AMP-R CN CONT

Ref. No. Part No. Description Remarks

< TRANSISTOR >

Q751 8-729-620-18 TRANSISTOR 2SA979-FG
Q752 8-729-108-14 TRANSISTOR 2SA988-F
Q753 8-729-119-78 TRANSISTOR 2SC2785-HFE
Q754 8-729-119-78 TRANSISTOR 2SC2785-HFE

< RESISTOR >

R752 1-249-435-11 CARBON 33K 5% 1/4W
R753 1-249-409-11 CARBON 220 5% 1/4W
R754 1-249-421-11 CARBON 2.2K 5% 1/4W
R755 1-249-434-11 CARBON 27K 5% 1/4W
R756 1-249-426-11 CARBON 5.6K 5% 1/4W

R757 1-249-429-11 CARBON 10K 5% 1/4W
R758 1-249-435-11 CARBON 33K 5% 1/4W
R759 1-249-411-11 CARBON 330 5% 1/4W
R760 Δ 1-247-704-11 CARBON 220 5% 1/4W
R761 Δ 1-247-704-11 CARBON 220 5% 1/4W

* 1-638-273-11 CN BOARD

< FUSE >

F951 Δ 1-576-107-11 FUSE (US, Canadian)
F951 Δ 1-532-237-00 FUSE, TIME LAG (Australian, E)
F952 Δ 1-532-237-00 FUSE, TIME LAG (Australian, E)
F952 Δ 1-576-107-11 FUSE (US, Canadian)

* A-4341-710-A CONT BOARD, COMPLETE (US, Canadian)

* A-4341-715-A CONT BOARD, COMPLETE (E, Australian)

* 1-638-275-11 CONT BOARD

1-241-434-11 RES, VAR, SLIDE 250K

1-533-217-31 HOLDER, FUSE

4-352-844-01 PIN, LEAD, COATING

* 4-921-941-01 CUSHION (FL)

* 4-943-107-01 HOLDER (FL TUBE)

Ref. No. Part No. Description Remarks

< CAPACITOR >

C101 1-124-902-00 ELECT 0.47uF 20% 50V
C102 1-130-495-00 MYLAR 0.1uF 5% 50V
C104 1-124-443-00 ELECT 100uF 20% 10V
C105 1-130-495-00 MYLAR 0.1uF 5% 50V
C106 1-130-495-00 MYLAR 0.1uF 5% 50V

C108 1-136-171-00 FILM 0.33uF 5% 50V
C109 1-136-171-00 FILM 0.33uF 5% 50V
C401 1-124-903-11 ELECT 1uF 20% 50V
C402 1-124-902-00 ELECT 0.47uF 20% 50V
C403 1-124-254-00 ELECT 0.68uF 20% 50V

C404 1-130-490-11 MYLAR 0.039uF 5% 50V
C405 1-124-464-11 ELECT 0.22uF 20% 50V
C406 1-130-484-00 MYLAR 0.012uF 5% 50V
C407 1-130-493-00 MYLAR 0.068uF 5% 50V
C408 1-130-478-00 MYLAR 0.0039uF 5% 50V

C409 1-130-487-00 MYLAR 0.022uF 5% 50V
C410 1-164-086-11 CERAMIC 0.0012uF 10% 50V
C411 1-130-481-00 MYLAR 0.0068uF 5% 50V
C412 1-162-289-31 CERAMIC 390PF 10% 50V
C413 1-124-907-11 ELECT 10uF 20% 50V (US,

Canadian)

C414 1-161-374-11 CERAMIC 0.0015uF 20% 50V
C415 1-136-169-00 FILM 0.22uF 5% 50V
C417 1-124-907-11 ELECT 10uF 20% 50V (US,

Canadian)

C451 1-124-903-11 ELECT 1uF 20% 50V
C452 1-124-902-00 ELECT 0.47uF 20% 50V
C453 1-124-254-00 ELECT 0.68uF 20% 50V
C454 1-130-490-11 MYLAR 0.039uF 5% 50V
C455 1-124-464-11 ELECT 0.22uF 20% 50V

C456 1-130-484-00 MYLAR 0.012uF 5% 50V
C457 1-130-493-00 MYLAR 0.068uF 5% 50V
C458 1-130-478-00 MYLAR 0.0039uF 5% 50V
C459 1-130-487-00 MYLAR 0.022uF 5% 50V
C460 1-164-086-11 CERAMIC 0.0012uF 10% 50V

C461 1-130-481-00 MYLAR 0.0068uF 5% 50V
C462 1-162-289-31 CERAMIC 390PF 10% 50V
C463 1-124-907-11 ELECT 10uF 20% 50V (US,

Canadian)

C464 1-161-374-11 CERAMIC 0.0015uF 20% 50V

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
< CONNECTOR >				< RESISTOR >			
CN101	* 1-568-850-11	SOCKET, CONNECTOR 7P		R101	1-247-903-00	CARBON 1M 5% 1/4W	
CN102	* 1-565-480-11	CONNECTOR, BOARD TO BOARD 4P		R102	1-249-429-11	CARBON 10K 5% 1/4W	
CN104	* 1-568-854-11	SOCKET, CONNECTOR 11P		R103	1-247-895-00	CARBON 470K 5% 1/4W	
CN401	* 1-568-850-11	SOCKET, CONNECTOR 7P		R105	1-249-417-11	CARBON 1K 5% 1/4W	
CN402	* 1-561-651-00	SOCKET, CONNECTOR 7P				(Australian, E)	
< DIODE >				R106	1-249-417-11	CARBON 1K 5% 1/4W	
D101	8-719-987-63	DIODE N4148M		R107	1-249-411-11	CARBON 330 5% 1/4W	
D102	8-719-987-63	DIODE N4148M		R108	1-249-411-11	CARBON 330 5% 1/4W	
D103	8-719-987-63	DIODE N4148M		R109	1-249-411-11	CARBON 330 5% 1/4W	
D104	8-719-987-63	DIODE N4148M		R110	1-249-411-11	CARBON 330 5% 1/4W	
D105	8-719-987-63	DIODE N4148M					
D106	8-719-987-63	DIODE N4148M		R111	1-249-425-11	CARBON 4. 7K 5% 1/4W	
D107	8-719-987-63	DIODE N4148M		R112	1-249-425-11	CARBON 4. 7K 5% 1/4W	
D108	8-719-987-63	DIODE N4148M		R113	1-249-425-11	CARBON 4. 7K 5% 1/4W	
D109	8-719-987-63	DIODE N4148M		R114	1-249-425-11	CARBON 4. 7K 5% 1/4W	
D112	8-719-985-53	DIODE HZS4ALL		R115	1-249-437-11	CARBON 47K 5% 1/4W	
D113	8-719-985-53	DIODE HZS4ALL					
D114	8-719-301-37	DIODE SEL2210S-CD (Australian, E)		R116	1-249-437-11	CARBON 47K 5% 1/4W	
D116	8-719-987-63	DIODE N4148M		R117	1-249-437-11	CARBON 47K 5% 1/4W	
D117	8-719-987-63	DIODE N4148M		R118	1-249-437-11	CARBON 47K 5% 1/4W	
< FILTER >				R119	1-249-437-11	CARBON 47K 5% 1/4W	
FL101	1-519-663-11	INDICATOR TUBE, FLUORESCENT		R120	1-249-437-11	CARBON 47K 5% 1/4W	
< IC >							
IC101	8-759-154-40	IC uPD75206-717-3BE		R121	1-249-437-11	CARBON 47K 5% 1/4W	
IC401	8-759-602-04	IC M5226P		R122	1-249-437-11	CARBON 47K 5% 1/4W	
IC451	8-759-602-04	IC M5226P		R123	1-249-437-11	CARBON 47K 5% 1/4W	
< TRANSISTOR >				R124	1-249-437-11	CARBON 47K 5% 1/4W	
Q101	8-729-900-36	TRANSISTOR DTC124ES		R125	1-249-425-11	CARBON 4. 7K 5% 1/4W	
Q102	8-729-900-63	TRANSISTOR DTA124ES					
Q103	8-729-119-78	TRANSISTOR 2SC2785-HFE		R126	1-249-437-11	CARBON 47K 5% 1/4W	
Q104	8-729-900-63	TRANSISTOR DTA124ES (Australian, E)		R127	1-249-437-11	CARBON 47K 5% 1/4W	
Q401	8-729-224-61	TRANSISTOR 2SK246-Y		R128	1-249-437-11	CARBON 47K 5% 1/4W	
Q402	8-729-119-78	TRANSISTOR 2SC2785-HFE		R129	1-249-437-11	CARBON 47K 5% 1/4W	
Q403	8-729-141-30	TRANSISTOR 2SC3623A-LK		R130	1-249-437-11	CARBON 47K 5% 1/4W	
Q451	8-729-224-61	TRANSISTOR 2SK246-Y					
Q452	8-729-119-78	TRANSISTOR 2SC2785-HFE		R131	1-249-437-11	CARBON 47K 5% 1/4W	
Q453	8-729-141-30	TRANSISTOR 2SC3623A-LK		R132	1-249-437-11	CARBON 47K 5% 1/4W	
				R133	1-249-437-11	CARBON 47K 5% 1/4W	
				R134	1-249-437-11	CARBON 47K 5% 1/4W	
				R135	1-249-405-11	CARBON 100 5% 1/4W	
				R136	1-249-405-11	CARBON 100 5% 1/4W	
				R142	1-249-429-11	CARBON 10K 5% 1/4W	
				R143	1-249-437-11	CARBON 47K 5% 1/4W	
				R401	1-249-441-11	CARBON 100K 5% 1/4W	
				R402	1-247-903-00	CARBON 1M 5% 1/4W	
				R403	1-249-411-11	CARBON 330 5% 1/4W	
				R404	1-249-437-11	CARBON 47K 5% 1/4W	
				R405	1-249-412-11	CARBON 390 5% 1/4W	
				R406	1-249-426-11	CARBON 5. 6K 5% 1/4W	
				R407	1-249-417-11	CARBON 1K 5% 1/4W	

CONT	DBFB	FUSE
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Ref. No.	Part No.	Description	Remarks
R408	1-249-419-11	CARBON 1.5K 5% 1/4W	
R409	1-249-425-11	CARBON 4.7K 5% 1/4W	
R410	1-249-419-11	CARBON 1.5K 5% 1/4W	
R411	1-249-425-11	CARBON 4.7K 5% 1/4W	
R412	1-249-429-11	CARBON 10K 5% 1/4W	
R413	1-249-437-11	CARBON 47K 5% 1/4W	
R414	1-249-437-11	CARBON 47K 5% 1/4W	
R415	1-249-437-11	CARBON 47K 5% 1/4W	
R451	1-249-441-11	CARBON 100K 5% 1/4W	
R452	1-247-903-00	CARBON 1M 5% 1/4W	
R453	1-249-411-11	CARBON 330 5% 1/4W	
R454	1-249-437-11	CARBON 47K 5% 1/4W	
R455	1-249-412-11	CARBON 390 5% 1/4W	
R456	1-249-426-11	CARBON 5.6K 5% 1/4W	
R457	1-249-417-11	CARBON 1K 5% 1/4W	
R458	1-249-419-11	CARBON 1.5K 5% 1/4W	
R459	1-249-425-11	CARBON 4.7K 5% 1/4W	
R460	1-249-419-11	CARBON 1.5K 5% 1/4W	
R461	1-249-425-11	CARBON 4.7K 5% 1/4W	
< VARIABLE RESISTOR >			
RV401	1-241-434-11	RES, VAR, SLIDE 250K (100KHz)	
RV402	1-241-434-11	RES, VAR, SLIDE 250K (300KHz)	
RV403	1-241-434-11	RES, VAR, SLIDE 250K (1kHz)	
RV404	1-241-434-11	RES, VAR, SLIDE 250K (3.3KHz)	
RV405	1-241-434-11	RES, VAR, SLIDE 250K (10KHz)	
RV406	1-241-022-11	RES, VAR, CARBON 150K/150K (BALANCE)	
RV451	1-241-434-11	RES, VAR, SLIDE 250K (100KHz)	
RV452	1-241-434-11	RES, VAR, SLIDE 250K (300KHz)	
RV453	1-241-434-11	RES, VAR, SLIDE 250K (1kHz)	
RV454	1-241-434-11	RES, VAR, SLIDE 250K (3.3KHz)	
RV455	1-241-434-11	RES, VAR, SLIDE 250K (10KHz)	
< SWITCH >			
S101	1-554-303-21	SWITCH, TACTILE (PHONE)	
S102	1-554-303-21	SWITCH, TACTILE (TUNER)	
S103	1-554-303-21	SWITCH, TACTILE (CD)	
S104	1-554-303-21	SWITCH, TACTILE (TAPE)	
S105	1-554-303-21	SWITCH, TACTILE (VIDEO)	
< CRYSTAL >			
X101	1-567-775-11	VIBRATOR, CERAMIC	

Ref. No.	Part No.	Description	Remarks
* 1-638-280-11	DBFB BOARD	*****	
< CONNECTOR >			
CN107	* 1-568-951-11	PIN, CONNECTOR 2P	
< SWITCH >			
S111	1-554-303-21	SWITCH, TACTILE (DBFB)	

* 1-638-276-11	FUSE BOARD	*****	
< CAPACITOR >			
C901	1-161-744-00	CERAMIC 0.01uF 400V	
C966	1-130-487-00	MYLAR 0.022uF 5% 50V	
C967	1-130-487-00	MYLAR 0.022uF 5% 50V	
C968	1-162-282-31	CERAMIC 100PF 10% 50V	
C969	1-124-557-11	ELECT 1000uF 20% 25V	
C970	1-124-477-11	ELECT 47uF 20% 25V	
C971	1-124-907-11	ELECT 10uF 20% 50V	
C972	1-124-903-11	ELECT 1uF 20% 50V	
C973	1-130-487-00	MYLAR 0.022uF 5% 50V	
C974	1-124-464-11	ELECT 0.22uF 20% 50V	
< CONNECTOR >			
CN901	1-535-139-00	BASE POST 22MM (10MM PITCH) 2P	
CN902	1-535-139-00	BASE POST 22MM (10MM PITCH) 2P	
CN903	1-535-139-00	BASE POST 2P (E)	
CN904	* 1-535-115-00	TERMINAL (E)	
CN905	* 1-535-116-00	TERMINAL (E)	
CN956	* 1-564-777-11	PLUG, CONNECTOR (2.5MM) 2P	
CN957	* 1-568-826-11	SOCKET, CONNECTOR 7P	
CNJ901	△1-540-057-11	OUTLET, AC (POLAR) (AC OUTLET) (US, Canadian)	
CNJ901	△1-540-038-11	OUTLET, AC (NONPOLAR) (1P) (E)	
< DIODE >			
D958	8-719-987-63	DIODE N4148M	
D959	8-719-200-77	DIODE 10E2N	
D960	8-719-200-77	DIODE 10E2N	
D961	8-719-200-77	DIODE 10E2N	
D962	8-719-200-77	DIODE 10E2N	

Note:
The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

Note:
Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

FUSE	HP	HP JOINT	MAIN
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Ref. No.	Part No.	Description	Remarks
D963	8-719-987-63	DIODE N4148M	
D964	8-719-987-63	DIODE N4148M	
D965	8-719-933-41	DIODE HZS6C3L	
D966	8-719-933-41	DIODE HZS6C3L	
D967	8-719-985-53	DIODE HZS4ALL	
D969	8-719-987-63	DIODE 11ES2	
< FUSE >			
F901	△1-532-237-00	FUSE, TIME LAG (E, Australian)	
F901	△1-576-110-11	FUSE (US, Canadian)	
< TRANSISTOR >			
Q952	8-729-209-15	TRANSISTOR 2SD2012	
Q953	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q954	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q955	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q956	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q957	8-729-119-78	TRANSISTOR 2SC2785-HFE	
< RESISTOR >			
R901	1-202-725-00	SOLID 3.3M 10% 1/2W (US, Canadian)	
R960	1-249-396-11	CARBON 18 5% 1/6W	
R961	1-249-417-11	CARBON 1K 5% 1/4W	
R962	1-249-437-11	CARBON 47K 5% 1/4W	
R963	1-249-433-11	CARBON 22K 5% 1/4W	
R964	1-249-429-11	CARBON 10K 5% 1/4W	
R965	1-249-425-11	CARBON 4.7K 5% 1/4W	
R966	1-249-429-11	CARBON 10K 5% 1/4W	
R967	1-249-417-11	CARBON 1K 5% 1/4W	
R968	1-249-429-11	CARBON 10K 5% 1/4W	
R969	1-249-426-11	CARBON 5.6K 5% 1/4W	
R970	1-249-417-11	CARBON 1K 5% 1/4W	
R971	1-249-426-11	CARBON 5.6K 5% 1/4W	
< RELAY >			
RY901	△1-515-617-11	RELAY (Australian, E)	
RY901	△1-515-701-11	RELAY (US, Canadian)	
< TRANSFORMER >			
T902	△1-449-993-21	TRANSFORMER, POWER (US, Canadian)	
T902	△1-450-067-11	TRANSFORMER, POWER (Australian, E)	

Ref. No.	Part No.	Description	Remarks
* 1-638-285-11	HP BOARD	*****	
< JACK >			
J700	1-568-515-21	JACK (LARGE TYPE) (PHONES)	

* 1-638-286-11	HP JOINT BOARD	*****	
< CONNECTOR >			
CN707	* 1-506-509-11	PIN, CONNECTOR 4P	

* A-4341-814-A	MAIN BOARD, COMPLETE (Australian)	*****	
* A-4341-950-A	MAIN BOARD, COMPLETE (Canadian)	*****	
* A-4341-713-A	MAIN BOARD, COMPLETE (E)	*****	
* A-4341-708-A	MAIN BOARD, COMPLETE (US)	*****	
< CAPACITOR >			
C301	1-124-907-11	ELECT 10uF 20% 50V	
C302	1-162-215-31	CERAMIC 47PF 5% 50V	
C303	1-124-907-11	ELECT 10uF 20% 50V	
C351	1-124-907-11	ELECT 10uF 20% 50V	
C352	1-162-215-31	CERAMIC 47PF 5% 50V	
C353	1-124-907-11	ELECT 10uF 20% 50V	
C501	1-162-283-31	CERAMIC 120PF 10% 50V	
C502	1-124-907-11	ELECT 10uF 20% 50V	
C503	1-162-282-31	CERAMIC 100PF 10% 50V	
C504	1-124-925-11	ELECT 2.2uF 20% 100V	
C506	1-161-374-11	CERAMIC 0.0015uF 20% 50V	
C507	1-124-902-00	ELECT 0.47uF 20% 50V	
C508	1-126-233-11	ELECT 22uF 20% 50V	
C509	1-162-294-31	CERAMIC 0.001uF 10% 50V	



Note:
The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.


Note:
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MAIN

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
C510	1-162-294-31	CERAMIC 0.001uF 10% 50V		C957	1-130-487-00	MYLAR 0.022uF 5% 50V	
C551	1-162-283-31	CERAMIC 120PF 10% 50V		C958	1-130-487-00	MYLAR 0.022uF 5% 50V	
C552	1-124-907-11	ELECT 10uF 20% 50V		C959	1-124-563-11	ELECT 2200uF 20% 25V	
C553	1-162-282-31	CERAMIC 100PF 10% 50V		C960	1-124-557-11	ELECT 1000uF 20% 25V	
				C961	1-124-907-11	ELECT 10uF 20% 50V	
C554	1-124-925-11	ELECT 2.2uF 20% 100V					
C555	1-130-480-00	MYLAR 0.0056uF 5% 50V		C962	1-124-907-11	ELECT 10uF 20% 50V	
C556	1-161-374-11	CERAMIC 0.0015uF 20% 50V		C963	1-124-477-11	ELECT 47uF 20% 25V	
C557	1-124-902-00	ELECT 0.47uF 20% 50V		C964	1-124-477-11	ELECT 47uF 20% 25V	
C558	1-126-233-11	ELECT 22uF 20% 50V		C965	1-124-477-11	ELECT 47uF 20% 25V	
				C975	1-124-910-11	ELECT 47uF 20% 50V	(Canadian)
C701	1-124-927-11	ELECT 4.7uF 20% 100V		C976	1-124-910-11	ELECT 47uF 20% 50V	(Canadian)
C702	1-162-286-31	CERAMIC 220PF 10% 50V					
C706	1-162-209-31	CERAMIC 27PF 5% 50V				< CONNECTOR >	
C707	1-161-959-00	CERAMIC 22PF 10% 500V		CN1	1-565-949-11	SOCKET, CONNECTOR 9P (SYSTEM CONTROL 3)	
C708	1-124-477-11	ELECT 47uF 20% 25V		CN3	* 1-566-858-11	SOCKET, CONNECTOR 11P	(SYSTEM CONTROL 2, 1)
C709	1-161-959-00	CERAMIC 22PF 10% 500V		CN5	* 1-564-358-00	PIN, CONNECTOR 3P (Australian, E)	
C710	1-130-495-00	MYLAR 0.1uF 5% 50V		CN301	* 1-568-826-11	SOCKET, CONNECTOR 7P	
C711	1-130-493-00	MYLAR 0.068uF 5% 50V	(Canadian, E, Australian)	CN302	* 1-564-779-11	PLUG, CONNECTOR (2.5MM) 6P (E)	
C712	1-130-489-00	MYLAR 0.033uF 5% 50V (US)		CN701	* 1-568-826-11	SOCKET, CONNECTOR 7P	
C712	1-130-493-00	MYLAR 0.068uF 5% 50V	(Canadian, E, Australian)	CN710	* 1-563-192-11	CONNECTOR (SOCKET) 9P	
C713	1-130-487-00	MYLAR 0.022uF 5% 50V					
C714	1-124-477-11	ELECT 47uF 20% 25V		CN711	* 1-563-192-11	CONNECTOR (SOCKET) 9P	
C715	1-124-443-00	ELECT 100uF 20% 10V		CN903	1-535-139-00	BASE POST 22MM (10MM PITCH) 2P (E)	
C716	1-124-907-11	ELECT 10uF 20% 50V					
C717	1-124-477-11	ELECT 47uF 20% 25V				< DIODE >	
C751	1-124-927-11	ELECT 4.7uF 20% 100V		D115	8-719-987-63	DIODE 1N4148M	
C752	1-162-286-31	CERAMIC 220PF 10% 50V		D703	8-719-815-85	DIODE 1S1585	
C756	1-162-209-31	CERAMIC 27PF 5% 50V		D704	8-719-815-85	DIODE 1S1585	
C757	1-161-959-00	CERAMIC 22PF 10% 500V		D705	8-719-987-63	DIODE 1N4148M	
C758	1-124-477-11	ELECT 47uF 20% 25V		D706	8-719-987-63	DIODE 1N4148M (Canadian, E,	Australian)
C759	1-161-959-00	CERAMIC 22PF 10% 500V		D707	8-719-815-85	DIODE 1S1585	
C760	1-130-495-00	MYLAR 0.1uF 5% 50V		D753	8-719-815-85	DIODE 1S1585	
C761	1-130-493-00	MYLAR 0.068uF 5% 50V	(Canadian, E, Australian)	D754	8-719-815-85	DIODE 1S1585	
C762	1-130-489-00	MYLAR 0.033uF 5% 50V (US)		D951	8-719-302-38	DIODE RBV-602-01	
C762	1-130-493-00	MYLAR 0.068uF 5% 50V	(Canadian, E, Australian)				
C951	1-106-367-00	MYLAR 0.01uF 5% 200V		D953	8-719-200-77	DIODE 10E2N	
C952	1-106-367-00	MYLAR 0.01uF 5% 200V		D954	8-719-200-77	DIODE 10E2N	
C953	1-125-479-11	ELECT 10000uF 20% 63V	(US, Canadian)	D955	8-719-200-77	DIODE 10E2N	
C953	1-126-358-11	ELECT 10000uF 20% 71V	(Australian, E)	D956	8-719-200-77	DIODE 10E2N	
C954	1-126-358-11	ELECT 10000uF 20% 71V	(Australian, E)	D957	8-719-002-49	DIODE HZS30-1L	
C954	1-125-479-11	ELECT 10000uF 20% 63V	(US, Canadian)	D968	8-719-001-54	DIODE UZL-11H2 (Canadian)	
				D968	8-719-001-25	DIODE UZL-9H2 (US, Australian, E)	

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
< IC >							
IC301	8-759-634-50	IC M5218AL		Q764	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
IC501	8-759-634-50	IC M5218AL		Q951	8-729-141-03	TRANSISTOR 2SA733-QP	
IC502	8-759-805-14	IC LC7822		Q958	8-729-209-15	TRANSISTOR 2SD2012 (Canadian)	
IC701	8-759-111-68	IC uPC1237HA		< RESISTOR >			
IC951	8-759-231-53	IC M5F7805L		R139	1-249-417-11	CARBON 1K 5% 1/4W	
IC952	8-759-604-33	IC M5F7812L		R140	1-249-393-11	CARBON 10 5% 1/4W	
IC953	8-759-604-51	IC M5F7912L		R141	△1-249-478-11	CARBON 2.2 5% 1/2W F	(Australian, E)
< IC LINK >				R301	1-247-887-00	CARBON 220K 5% 1/4W	
ICP903	1-532-841-21	LINK IC (Australian, E)		R302	1-247-887-00	CARBON 220K 5% 1/4W	
< JACK >				R346	1-247-887-00	CARBON 220K 5% 1/4W	
J501	1-580-826-11	JACK, PIN (PHONE CD VIDEO)		R351	1-247-887-00	CARBON 220K 5% 1/4W	
< COIL >				R352	1-247-887-00	CARBON 220K 5% 1/4W	
L701	* 1-420-872-00	COIL, AIR CORE		R396	1-247-887-00	CARBON 220K 5% 1/4W	
L751	* 1-420-872-00	COIL, AIR CORE		R501	1-249-411-11	CARBON 330 5% 1/4W	
< TRANSISTOR >				R502	1-249-417-11	CARBON 1K 5% 1/4W	
Q105	8-729-119-78	TRANSISTOR 2SC2785-HFE		R503	1-249-429-11	CARBON 10K 5% 1/4W	
Q705	8-729-141-06	TRANSISTOR 2SA1142-QPE		R504	1-249-417-11	CARBON 1K 5% 1/4W	
Q706	8-729-209-15	TRANSISTOR 2SD2012		R505	1-249-417-11	CARBON 1K 5% 1/4W	
Q707	8-729-141-05	TRANSISTOR 2SC2682-QPE		R506	1-249-417-11	CARBON 1K 5% 1/4W	
Q708	8-729-119-78	TRANSISTOR 2SC2785-HFE		R507	1-249-437-11	CARBON 47K 5% 1/4W	
Q709	8-729-119-76	TRANSISTOR 2SA1175-HFE	(Canadian, E, Australian)	R508	1-249-416-11	CARBON 820 5% 1/4W	
Q709	8-729-620-02	TRANSISTOR 2SA1115-EF (US)		R509	1-247-897-11	CARBON 560K 5% 1/4W	
Q710	8-729-141-46	TRANSISTOR 2SC4431-LK		R510	1-249-437-11	CARBON 47K 5% 1/4W	
Q711	8-729-141-37	TRANSISTOR 2SA1684-LK		R511	1-249-441-11	CARBON 100K 5% 1/4W	
Q712	8-729-320-83	TRANSISTOR 2SC3855-OY		R512	1-249-409-11	CARBON 220 5% 1/4W	
Q713	8-729-320-86	TRANSISTOR 2SA1491-OY		R513	1-249-425-11	CARBON 4.7K 5% 1/4W	
Q714	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA		R551	1-249-411-11	CARBON 330 5% 1/4W	
Q715	8-729-900-36	TRANSISTOR DTC124ES		R552	1-249-417-11	CARBON 1K 5% 1/4W	
Q755	8-729-141-06	TRANSISTOR 2SA1142-QPE		R553	1-249-429-11	CARBON 10K 5% 1/4W	
Q756	8-729-209-15	TRANSISTOR 2SD2012		R554	1-249-417-11	CARBON 1K 5% 1/4W	
Q757	8-729-141-05	TRANSISTOR 2SC2682-QPE		R555	1-249-417-11	CARBON 1K 5% 1/4W	
Q758	8-729-119-78	TRANSISTOR 2SC2785-HFE		R556	1-249-417-11	CARBON 1K 5% 1/4W	
Q759	8-729-119-76	TRANSISTOR 2SA1175-HFE	(Canadian, E, Australian)	R557	1-249-437-11	CARBON 47K 5% 1/4W	
Q759	8-729-620-02	TRANSISTOR 2SA1115-EF (US)		R558	1-249-416-11	CARBON 820 5% 1/4W	
Q760	8-729-141-46	TRANSISTOR 2SC4431-LK		R559	1-247-897-11	CARBON 560K 5% 1/4W	
Q761	8-729-141-37	TRANSISTOR 2SA1684-LK		R560	1-249-437-11	CARBON 47K 5% 1/4W	
Q762	8-729-320-83	TRANSISTOR 2SC3855-OY		R561	1-249-441-11	CARBON 100K 5% 1/4W	
Q763	8-729-320-86	TRANSISTOR 2SA1491-OY		R562	1-249-409-11	CARBON 220 5% 1/4W	
				R701	1-249-417-11	CARBON 1K 5% 1/4W	
				R712	1-249-435-11	CARBON 33K 5% 1/4W	
				R713	△1-247-692-11	CARBON 22 5% 1/4W	
				R714	1-249-417-11	CARBON 1K 5% 1/4W	

Note:
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Note:
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MAIN	RX
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Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
R715	1-249-412-11	CARBON 390 5% 1/4W		R773	△1-247-745-11	CARBON 330 5% 1/2W	
R716	△1-247-692-11	CARBON 22 5% 1/4W		R774	△1-247-688-11	CARBON 10 5% 1/4W	
R717	△1-247-688-11	CARBON 10 5% 1/4W		R775	△1-247-688-11	CARBON 10 5% 1/4W	
R718	△1-247-688-11	CARBON 10 5% 1/4W		R776	△1-214-789-00	RES, METAL PLATE 0.1	
R719	△1-247-719-11	CARBON 3.3K 5% 1/4W		R777	△1-214-789-00	RES, METAL PLATE 0.1	
R720	△1-247-713-11	CARBON 1K 5% 1/4W		R778	1-249-393-11	CARBON 10 5% 1/4W	
R721	△1-247-713-11	CARBON 1K 5% 1/4W				(US, Canadian, E)	
R722	△1-247-717-11	CARBON 2.2K 5% 1/4W		R778	1-247-688-11	CARBON 10 5% 1/4W	
R723	△1-247-745-11	CARBON 330 5% 1/2W				(Australian)	
R724	△1-247-688-11	CARBON 10 5% 1/4W		R779	1-247-688-11	CARBON 10 5% 1/4W	
R725	△1-247-688-11	CARBON 10 5% 1/4W				(Australian)	
R726	△1-214-789-00	RES, METAL PLATE 0.1		R779	1-249-393-11	CARBON 10 5% 1/4W	
R727	△1-214-789-00	RES, METAL PLATE 0.1				(US, Canadian, E)	
R728	1-249-393-11	CARBON 10 5% 1/4W		R780	1-249-419-11	CARBON 1.5K 5% 1/4W	
		(US, Canadian, E)		R781	1-249-431-11	CARBON 15K 5% 1/4W	
R728	1-247-688-11	CARBON 10 5% 1/4W		R782	1-249-438-11	CARBON 56K 5% 1/4W	
		(Australian)		R784	1-249-393-11	CARBON 10 5% 1/4W	
R729	1-247-688-11	CARBON 10 5% 1/4W				(US, Canadian, E)	
		(Australian)		R784	1-247-688-11	CARBON 10 5% 1/4W	
R729	1-249-393-11	CARBON 10 5% 1/4W				(Australian)	
		(US, Canadian, E)		R789	1-247-688-11	CARBON 10 5% 1/4W	
R730	1-249-419-11	CARBON 1.5K 5% 1/4W				(Australian)	
R731	1-249-431-11	CARBON 15K 5% 1/4W		R789	1-249-393-11	CARBON 10 5% 1/4W	
R732	1-249-437-11	CARBON 47K 5% 1/4W				(US, Canadian, E)	
R734	1-249-393-11	CARBON 10 5% 1/4W		R793	1-249-429-11	CARBON 10K 5% 1/4W	
		(US, Canadian, E)		R954	△1-216-481-11	METAL OXIDE 1.2K 5% 3W F	
R734	1-247-688-11	CARBON 10 5% 1/4W		R955	△1-247-704-11	CARBON 220 5% 1/4W	
		(Australian)		R956	1-249-426-11	CARBON 5.6K 5% 1/4W	
R735	1-247-688-11	CARBON 10 5% 1/4W		R957	1-249-385-11	CARBON 2.2 5% 1/6W	
		(Australian)		R958	1-249-385-11	CARBON 2.2 5% 1/6W	
R735	1-249-393-11	CARBON 10 5% 1/4W		R959	1-249-385-11	CARBON 2.2 5% 1/6W	
		(US, Canadian, E)		R972	1-249-425-11	CARBON 4.7K 5% 1/4W	
R736	1-249-438-11	CARBON 56K 5% 1/4W				(Canadian)	
R737	1-249-433-11	CARBON 22K 5% 1/4W				< RELAY >	
R740	1-249-427-11	CARBON 6.8K 5% 1/4W					
R741	1-249-441-11	CARBON 100K 5% 1/4W		RY701	1-515-741-11	RELAY	
R751	1-249-417-11	CARBON 1K 5% 1/4W				< TEST PIN >	
R762	1-249-435-11	CARBON 33K 5% 1/4W					
R763	△1-247-692-11	CARBON 22 5% 1/4W		TP701	* 1-560-531-00	PIN, CONNECTOR 5P	
R764	1-249-417-11	CARBON 1K 5% 1/4W					
R765	1-249-412-11	CARBON 390 5% 1/4W					
R766	△1-247-692-11	CARBON 22 5% 1/4W					
R767	△1-247-688-11	CARBON 10 5% 1/4W					
R768	△1-247-688-11	CARBON 10 5% 1/4W					
R769	△1-247-719-11	CARBON 3.3K 5% 1/4W					
R770	△1-247-713-11	CARBON 1K 5% 1/4W					
R771	△1-247-713-11	CARBON 1K 5% 1/4W					
R772	△1-247-717-11	CARBON 2.2K 5% 1/4W					

* 1-638-277-11 RX BOARD

< CAPACITOR >

C107 1-162-294-31 CERAMIC 0.001uF 10% 50V

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RX

SP SW

SP TM

VOL

VOL JOINT

Ref. No.	Part No.	Description	Remarks
		< CONNECTOR >	
CN106	* 1-565-295-11	PLUG, CONNECTOR 4P	
		< IC >	
IC102	8-749-920-83	IC GP1U52XB	
		< RESISTOR >	
R137	1-249-429-11	CARBON 10K 5% 1/4W	
R138	1-249-429-11	CARBON 10K 5% 1/4W	
		< SWITCH >	
S117	1-554-303-21	SWITCH, TACTILE (SYSTEM POWER)	

	* 1-638-284-11	SP SW BOARD	

		< CONNECTOR >	
CN706	* 1-565-480-11	CONNECTOR, BOARD TO BOARD 4P	
CN708	* 1-506-786-11	PLUG, CONNECTOR (2.5MM) 12P	
		< RESISTOR >	
R733	△1-216-431-11	METAL OXIDE 560 5% 1W F	
R783	△1-216-431-11	METAL OXIDE 560 5% 1W F	
		< SWITCH >	
S701	1-572-685-11	SWITCH, ROTARY SLIDE (SPEAKERS)	

	* 1-638-287-11	SP TM BOARD	

		< CONNECTOR >	
CN705	* 1-564-778-11	PLUG, CONNECTOR (2.5MM) 4P	
TM701	1-537-341-11	TERMINAL BOARD (8P SP) (SPEAKER A, B)	

Ref. No.	Part No.	Description	Remarks
	* 1-638-501-11	VOL BOARD	

		< CONNECTOR >	
CN204	* 1-568-826-11	SOCKET, CONNECTOR 7P	
		< VARIABLE RESISTOR >	
RV407	1-241-405-11	RES, VAR, CARBON 100K/100K (MASTER VOLUME)	

	* 1-638-502-11	VOL JOINT BOARD	

		< CAPACITOR >	
C418	1-162-306-11	CERAMIC 0.01uF 20% 16V	
C419	1-124-925-11	ELECT 2.2uF 20% 100V	
C420	1-124-925-11	ELECT 2.2uF 20% 100V	
C421	1-162-306-11	CERAMIC 0.01uF 20% 16V	
		< IC >	
IC402	8-759-820-62	IC LB1639	
		< RESISTOR >	
R416	1-249-409-11	CARBON 220 5% 1/4W	
R417	1-249-425-11	CARBON 4.7K 5% 1/4W	
R418	1-249-425-11	CARBON 4.7K 5% 1/4W	

		MISCELLANEOUS	

8	1-590-485-11	WIRE, FLAT TYPE (7 CORE)	
14	1-590-486-11	WIRE, FLAT TYPE (7 CORE)	
15	1-590-488-11	WIRE, FLAT TYPE (11 CORE)	
16	1-590-538-11	WIRE, FLAT TYPE (7 CORE)	
64	1-535-530-11	PLUG, JUMPER (E)	
65	△1-569-007-11	ADAPTER, CONVERSION 2P (E)	
CNP901	△1-551-188-XX	CORD, POWER (E)	
CNP901	△1-551-478-00	CORD, POWER (US, Canadian)	
CNP901	△1-559-912-11	CORD, POWER (Australian)	
T901	△1-450-368-11	TRANSFORMER, POWER (US, Canadian)	
T901	△1-450-369-11	TRANSFORMER, POWER (E, Australian)	
VS-1	△1-571-515-11	SWITCH, POWER VOLTAGE SELECTION (E)	

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<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remarks</u>
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ACCESSORY & PACKING MATERIAL

* 4-943-620-01 CUSHION

HARDWARE LIST

# 1	7-682-548-04	SCREW +BVTT 3X8 (S)
# 2	7-682-548-09	SCREW +B 3X8
# 3	7-682-561-04	SCREW +BVTT 4X8 (S)
# 4	7-682-949-01	SCREW +PSW 3X10
# 5	7-621-849-00	SCREW, TAPPING
# 6	7-685-646-79	SCREW +BTP 3X8 TYPE2 N-S